

## HD video surveillance at high altitude.

In Livigno, the highest known Axis network camera in Europe is being used to ensure the security of ski slopes and for avalanche monitoring.



Organization:  
Municipality of Livigno

Location:  
Livigno, Italy

Industry segment:  
Government

Application:  
Surveillance of urban  
areas and ski slopes

Axis partners:  
Infoproget S.r.l.,  
Milestone

### Mission

The Municipality of Livigno is a renowned tourist resort in the center of the Alps which enjoys free zone status. Its strategic position between Italy and Switzerland at an altitude of 1816m makes it the ideal place to vacation and the perfect destination for shopping addicts, who can enjoy the advantages of the customs-free zone.

By virtue of these characteristics, the Municipality of Livigno wanted to equip its territory with a new video surveillance system to meet two requirements: to resolve the complex road traffic situation, both at the mountain border post of Passo del Foscagno and in the city center, and to monitor the valley from a high altitude to detect the risk of avalanches and ensure the security of ski slopes.

### Solution

The municipal administration entrusted the project to Infoproget, a company specializing in the implementation of IT solutions and an Axis partner. For Infoproget, the challenge proved to be a very interesting one: it consisted of replacing the existing analog video surveillance system, which did not work effectively, with a new system with guaranteed continuity of operation, very high-resolution images, reliability and scalability over time, in a complex territorial context in the transmission route due to the altitude and weather conditions.

### Result

Thanks to the solution offered by Axis Communications, Infoproget was able to implement a video surveillance system with 30 extremely reliable cameras which met the customer's complex requirements.

"In the past, the city of Livigno was equipped with an analog video surveillance system, which is now obsolete. Today, thanks to the new Axis video surveillance system, we can consider ourselves fully satisfied: the high-resolution images have been used several times by the Local Police, for example to understand the dynamics of certain road accidents or to identify delinquents who have vandalized the municipal territory."

Cristoforo Franzini, Local Police Chief of the Municipality of Livigno.

### City and customs traffic now secured

As a strategic transit point between Italy and Switzerland due to the movement of thousands of vacationers on weekends and in holiday periods, Livigno is affected by traffic problems and complex road conditions, both in the city center and at the mountain border post. In order to monitor the territory effectively, at the customs house and the 8 km long city center road, 29 high-resolution cameras have been installed: 9 AXIS Q6032-E dome and 20 AXIS Q1755 fixed cameras were chosen because they offer the ideal features to meet the territory's requirements, as well as being easy to install. The AXIS Q6032-E is able to perform rapid and precise rotation and tilting movements and take very detailed recordings even in the presence of irregular terrain, because it can be tilted by 20° beyond the horizon, or rather within a total tilting range of 220°; it can also identify license plates from a distance of 160 meters.

The AXIS Q1755 supports an HDTV resolution of 1080i or 720P, as well as a 16:9 aspect ratio; in addition, it can guarantee high-quality recordings without problems of blurred images, even for very fast-moving objects and under all lighting conditions.

The connection between the cameras and the recording servers was established using a multilevel 5.4 GHz Hip-erlan radio architecture. The data processing center is located at the city hall and is linked to the control room at the Local Police headquarters, and access to it is restricted to authorized personnel who can review the images only by entering a password.

Finally, a monitor was installed at the offices of the Military Corps at the customs office, which is located at a point where it is impossible to monitor the traffic situation on the Passo del Foscagno, to be able to view the road traffic and keep it under control.

The images are recorded by two recording servers with Milestone XProtect® Enterprise video management software.

### A revolution in mountain safety

In view of the alarming increase in accidents on ski slopes, the municipal administration also decided to conduct video surveillance of the entire skiing area by installing a camera at an altitude. They did so to protect tourists against the failure of others, to offer aid and to understand the dynamics of the accidents, thus reconstructing the incident and identifying the possible civil and criminal liability. The camera installed on a pylon at an altitude of 2,820 meters, apart from setting a record as the highest Axis camera in Europe known today, has signaled a true revolution in terms of high-altitude security.

The AXIS Q6032-E dome model was selected because it guarantees maximum reliability even in extreme weather conditions, thanks to the Arctic Temperature Control feature: not only is the camera able to operate at minimum temperatures as low as -40°C, but it can also restart itself at such temperatures after a possible power-supply interruption; in addition, it offers IP66 protection against dust and water penetration. Its powerful zoom lens manages to cover an area of 14 km and offers optimal image quality.

The video surveillance system, besides guaranteeing greater security on the ski slopes, can also monitor the possibility of avalanches. Direct from the control room located in the Command Post, the Police are able to monitor the entire area of the Livigno valley 24 hours a day.

"The advanced technology, wide portfolio of solutions, design precision, ease of installation, high reliability over time, scalability, and customer support offered make Axis the ideal partner even for the most complex video surveillance systems. We have been an Axis partner since 2003 and we succeeded in finding the best solution, even on this occasion," explains Leonardo Benaglia, Owner of Infoproget S.r.l.

